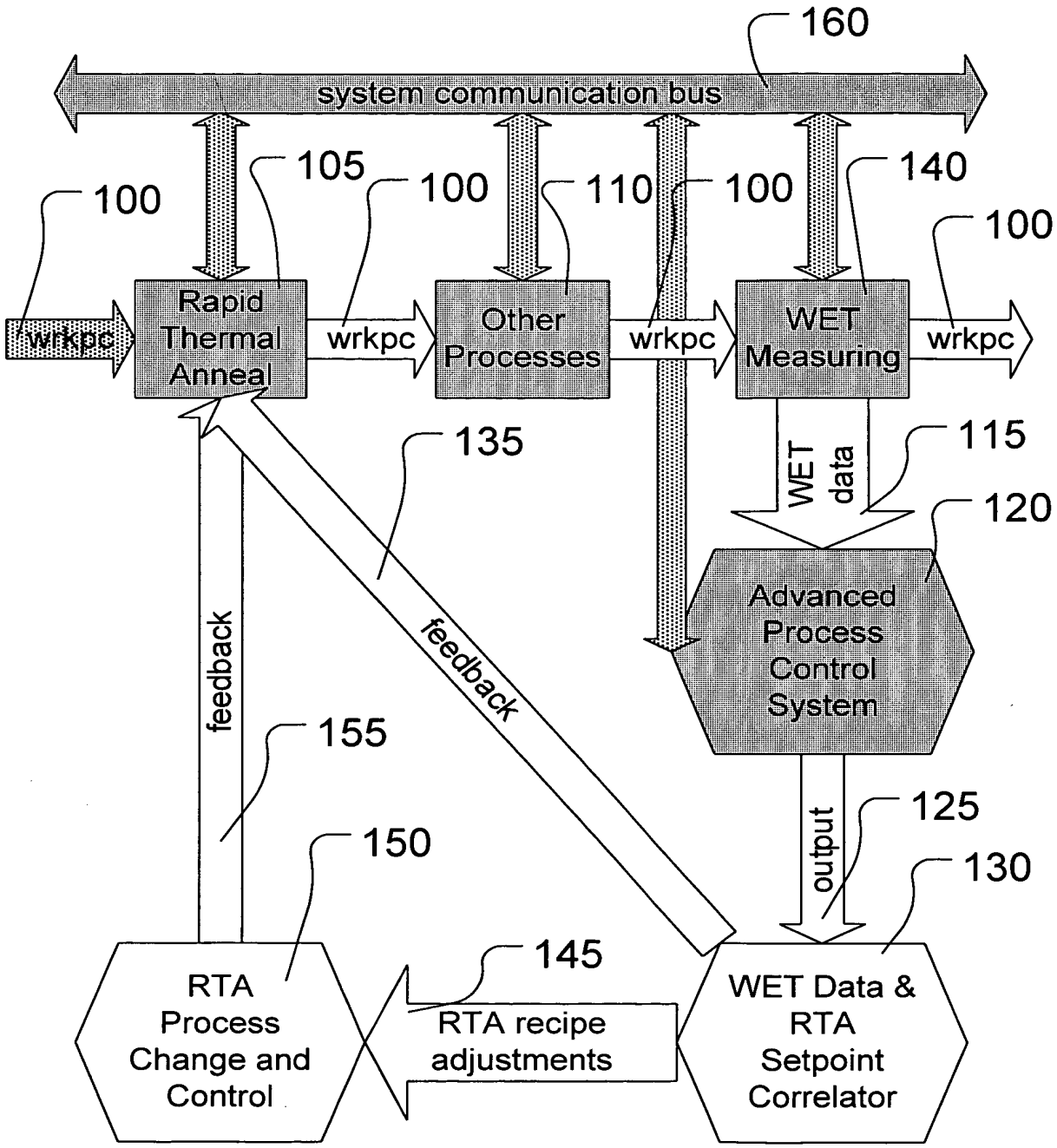
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100
140
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wrkpc
Rapid Thermal Anneal
wrkpc
Other Processes
wrkpc
WET Measuring
wrkpc
135
WET data
115
120
feedback
feedback
Advanced Process Control System
155
150
output
125
130
145
RTA Process Change and Control
RTA recipe adjustments
WET Data & RTA Setpoint Correlator

Figure 1

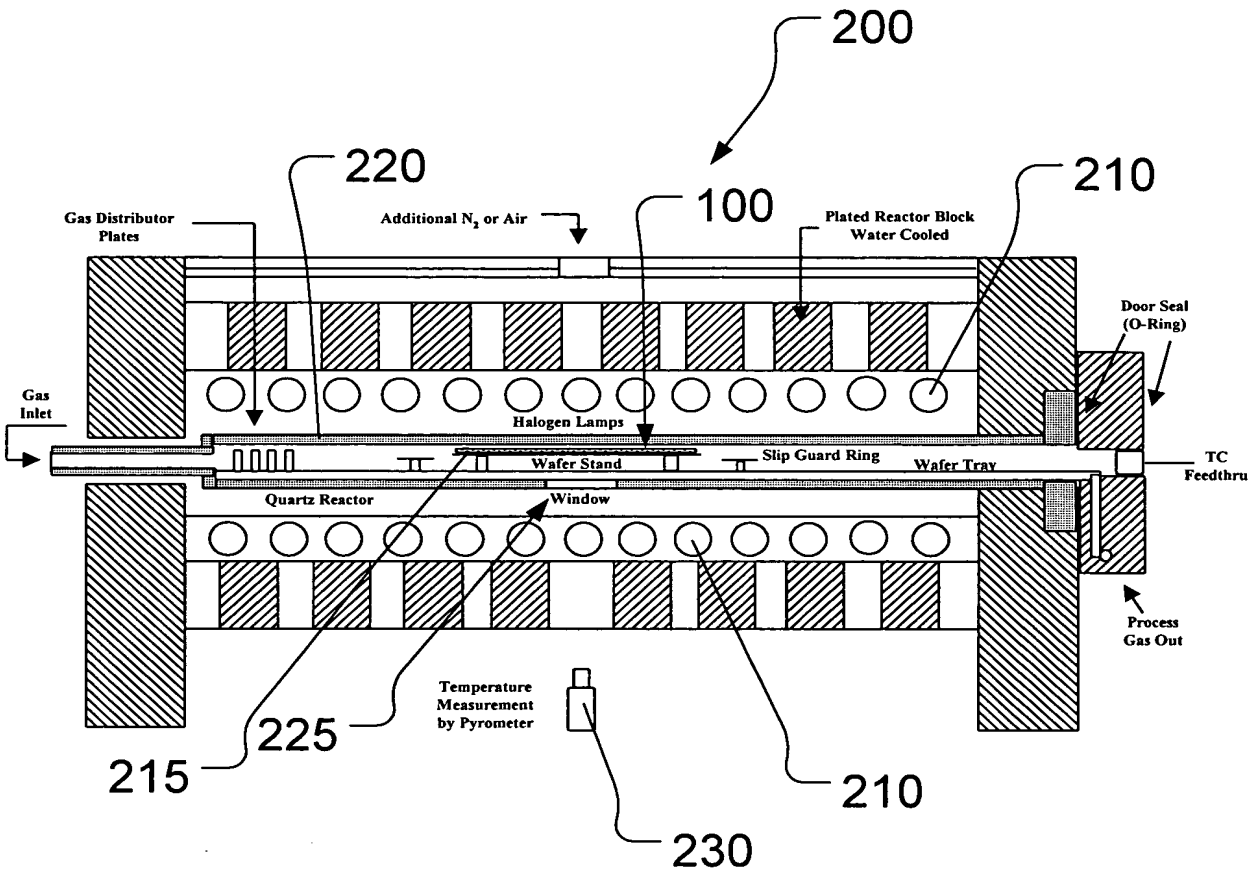
200
220
210
100
Gas Distributor Plates
Additional N_2 or Air
Plated Reactor Block Water Cooled
Door Seal (O-Ring)
Gas Inlet
Halogen Lamps
Wafer Stand
Slip Guard Ring
Wafer Tray
TC Feedthru
Quartz Reactor
Window
Process Gas Out
Temperature Measurement by Pyrometer
225
215
210
230

Figure 2

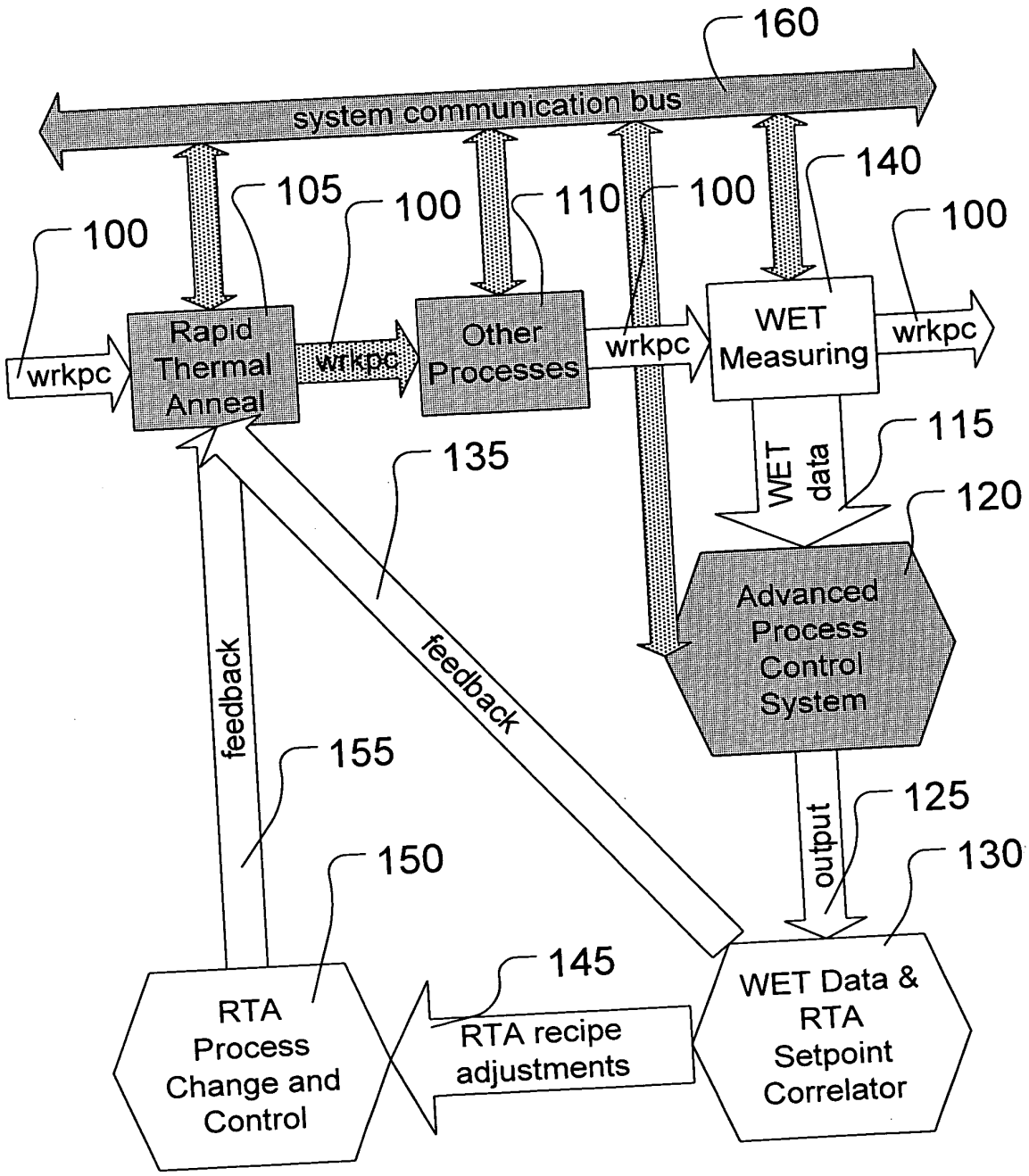
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Figure 3

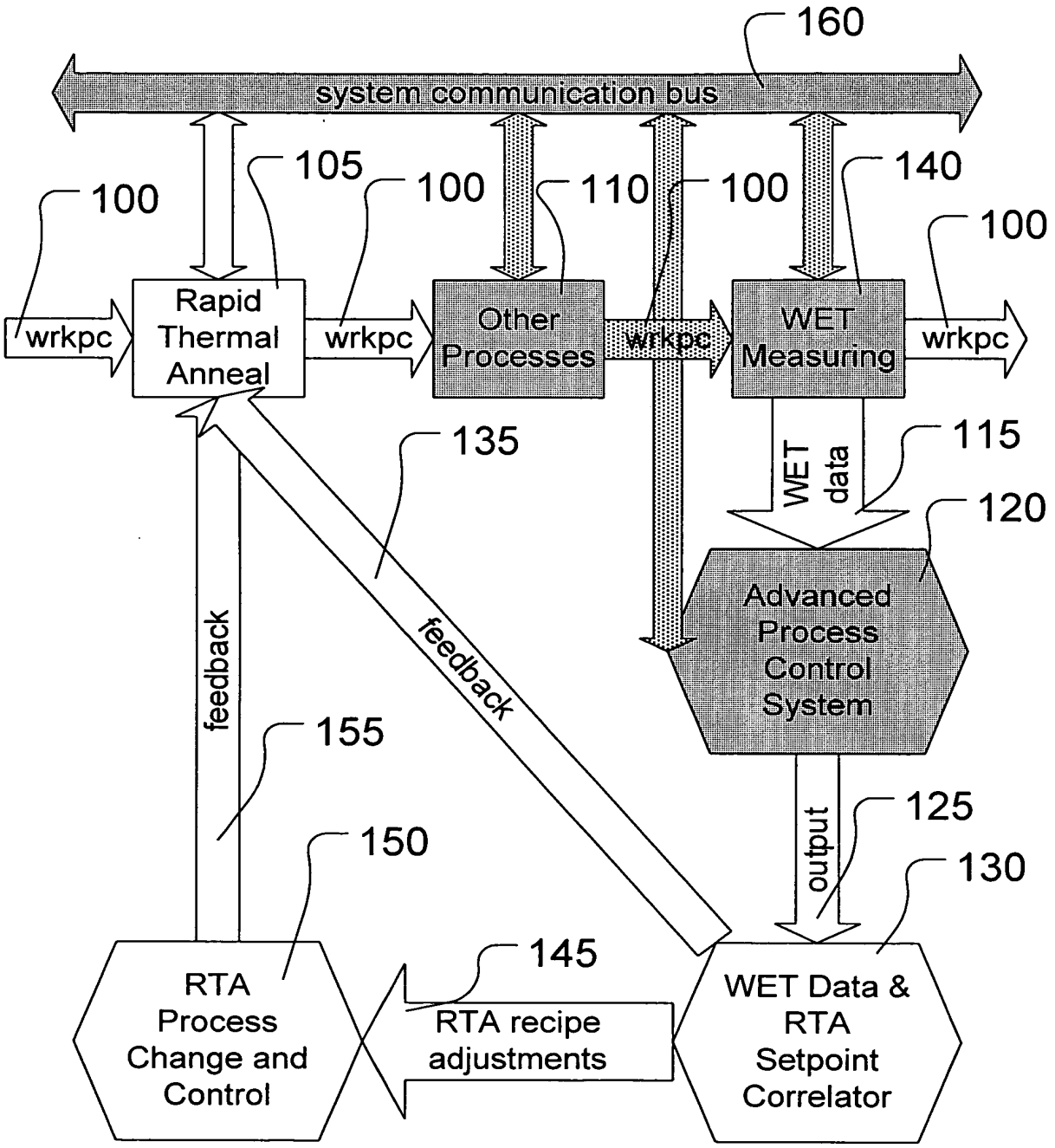
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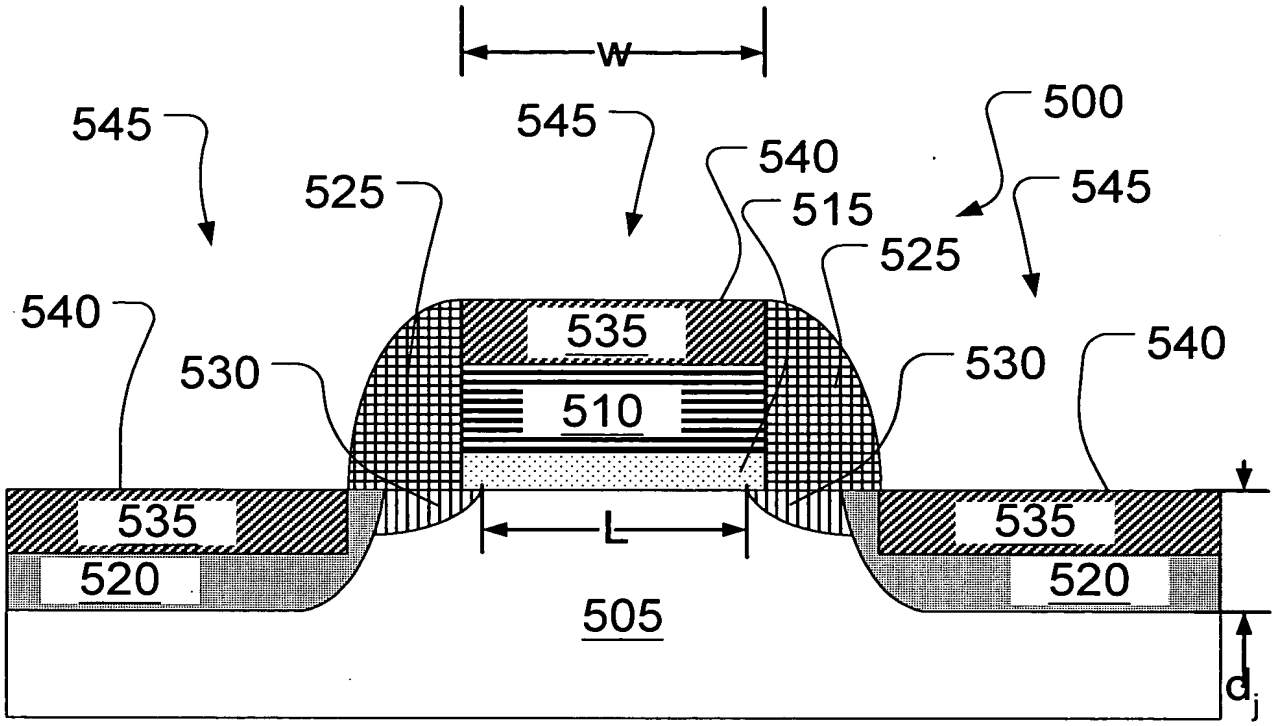
Figure 4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535
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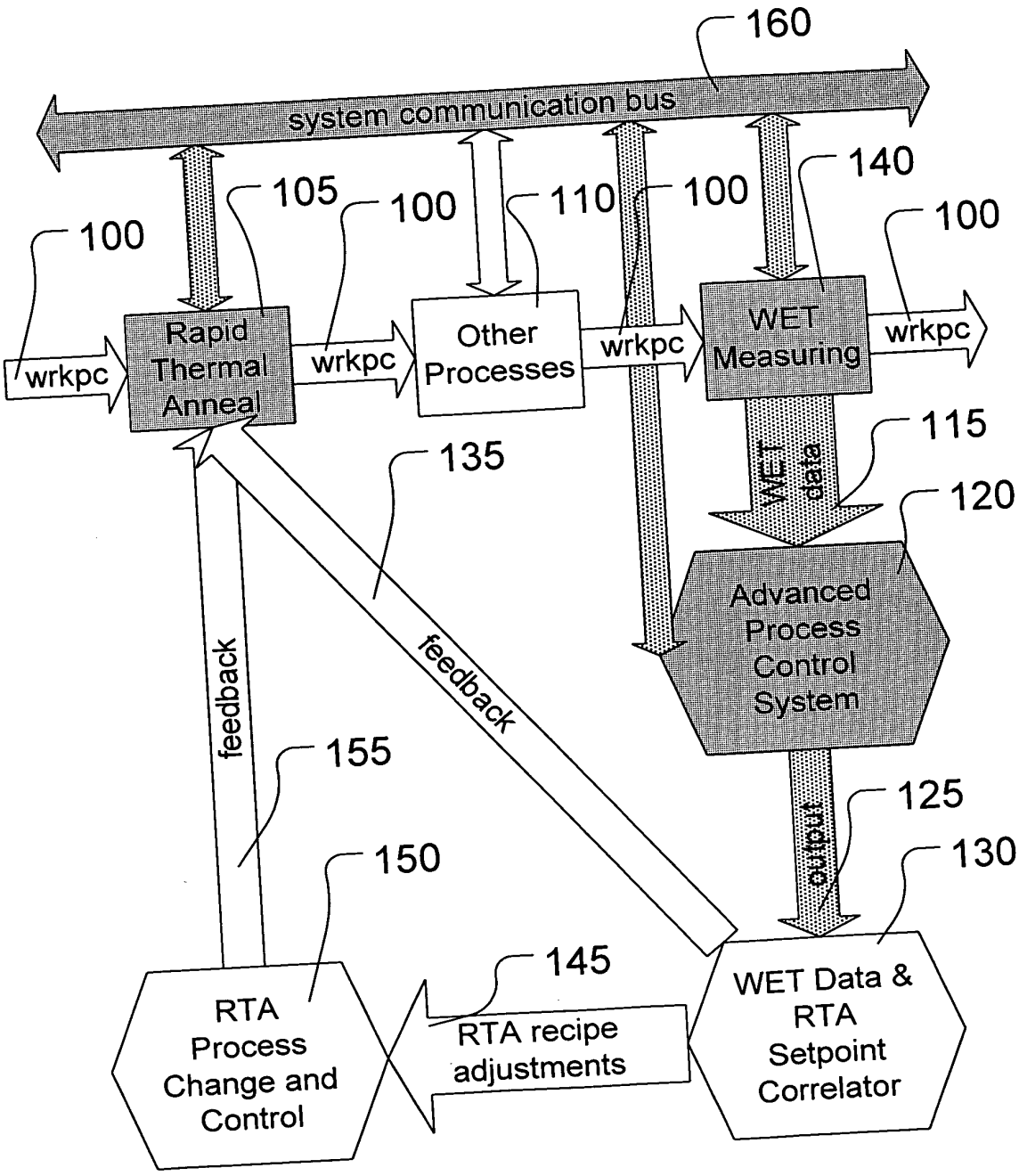
505
d_j

Figure 5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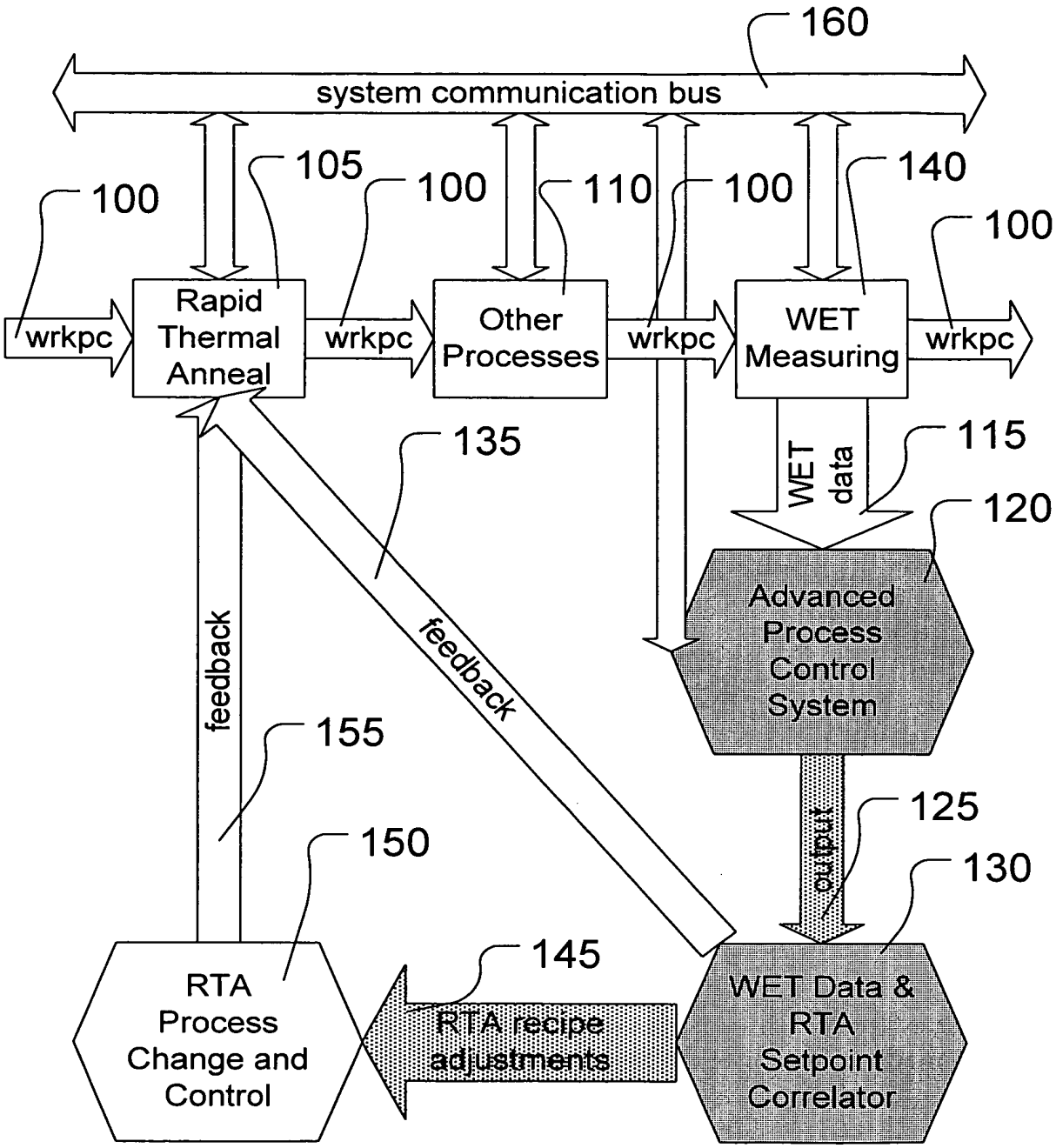
RTA recipe adjustments
WET Data & RTA Setpoint Correlator

Figure 6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wrkpc
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Figure 7

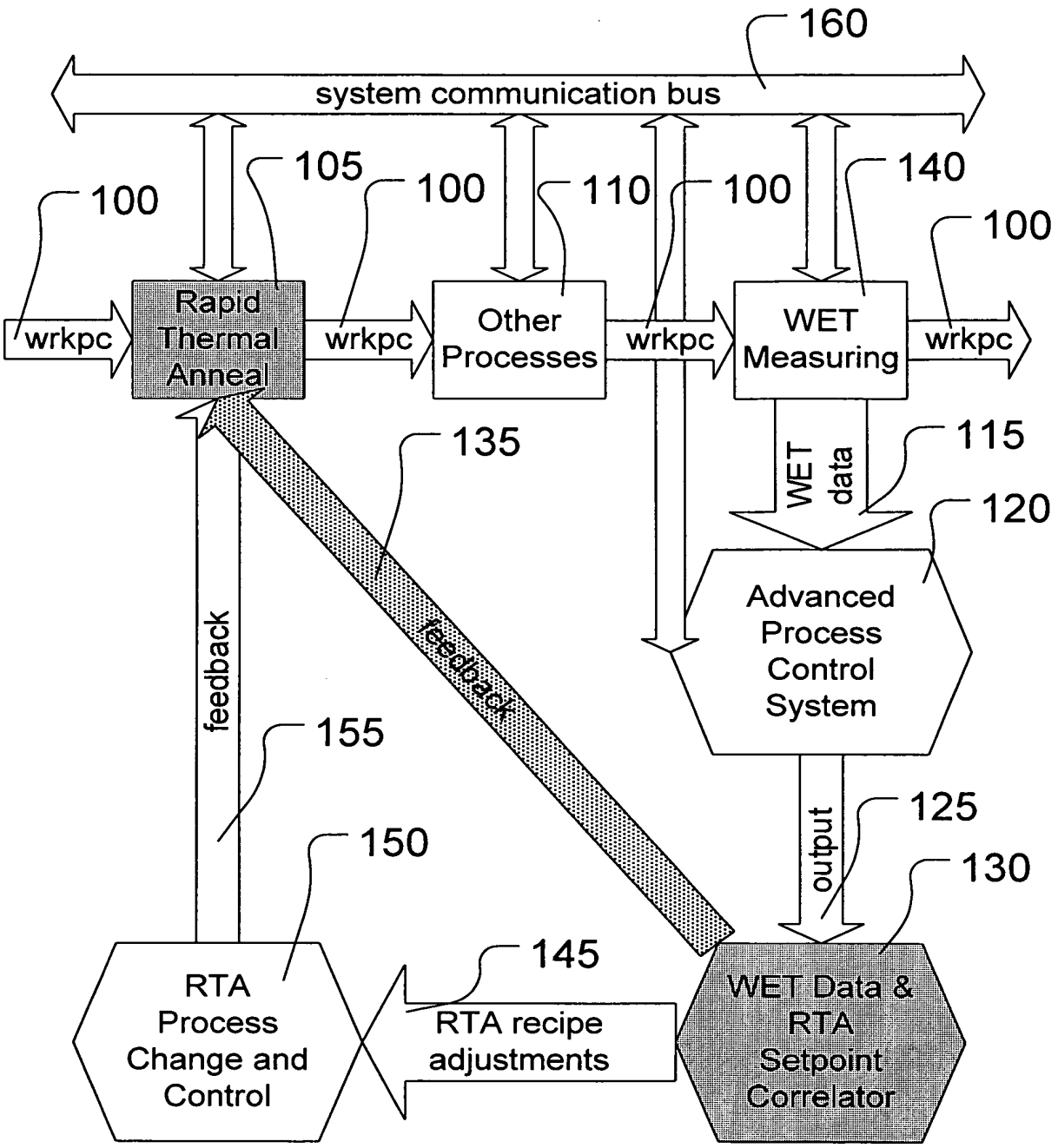
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Figure 8

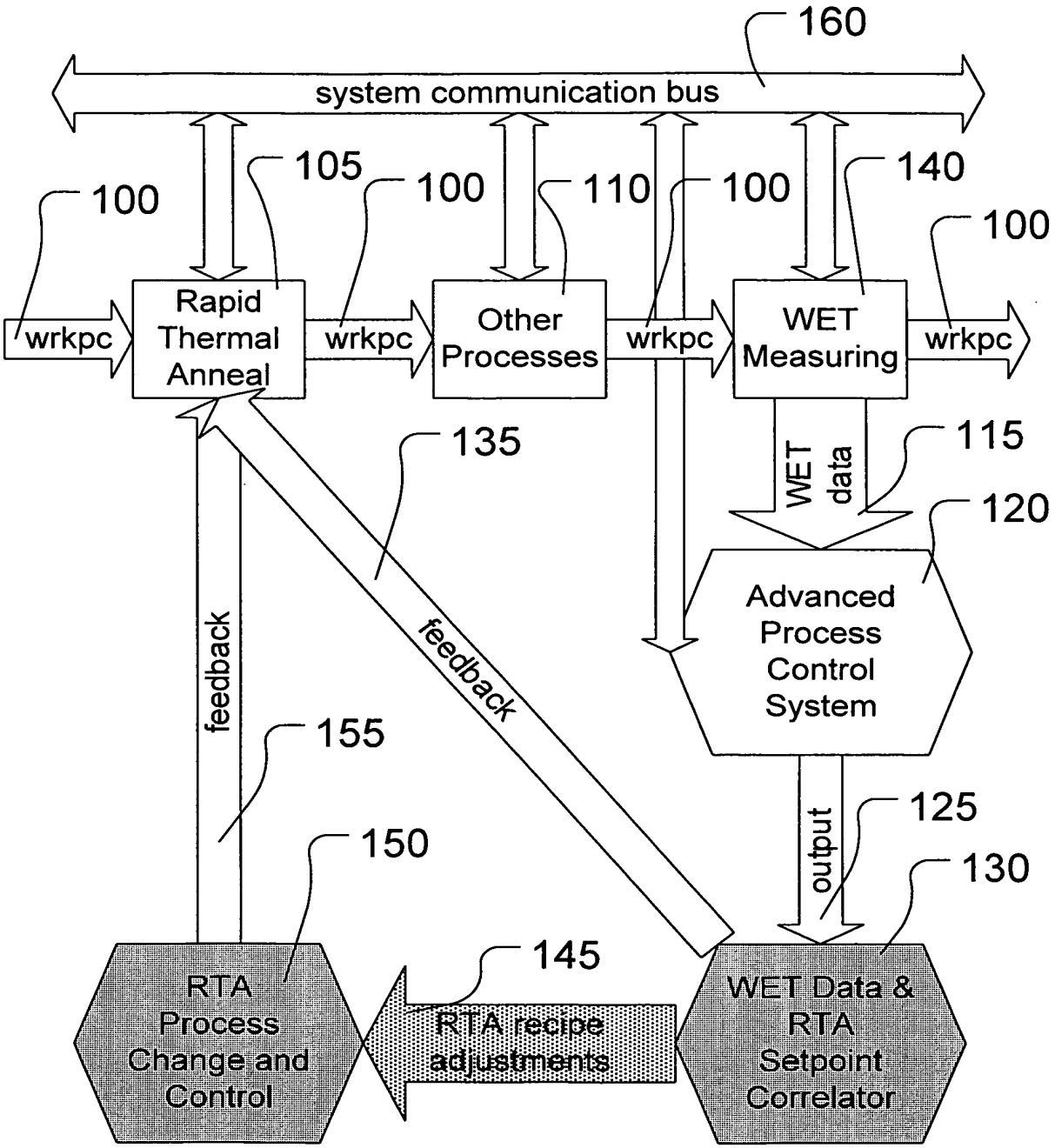
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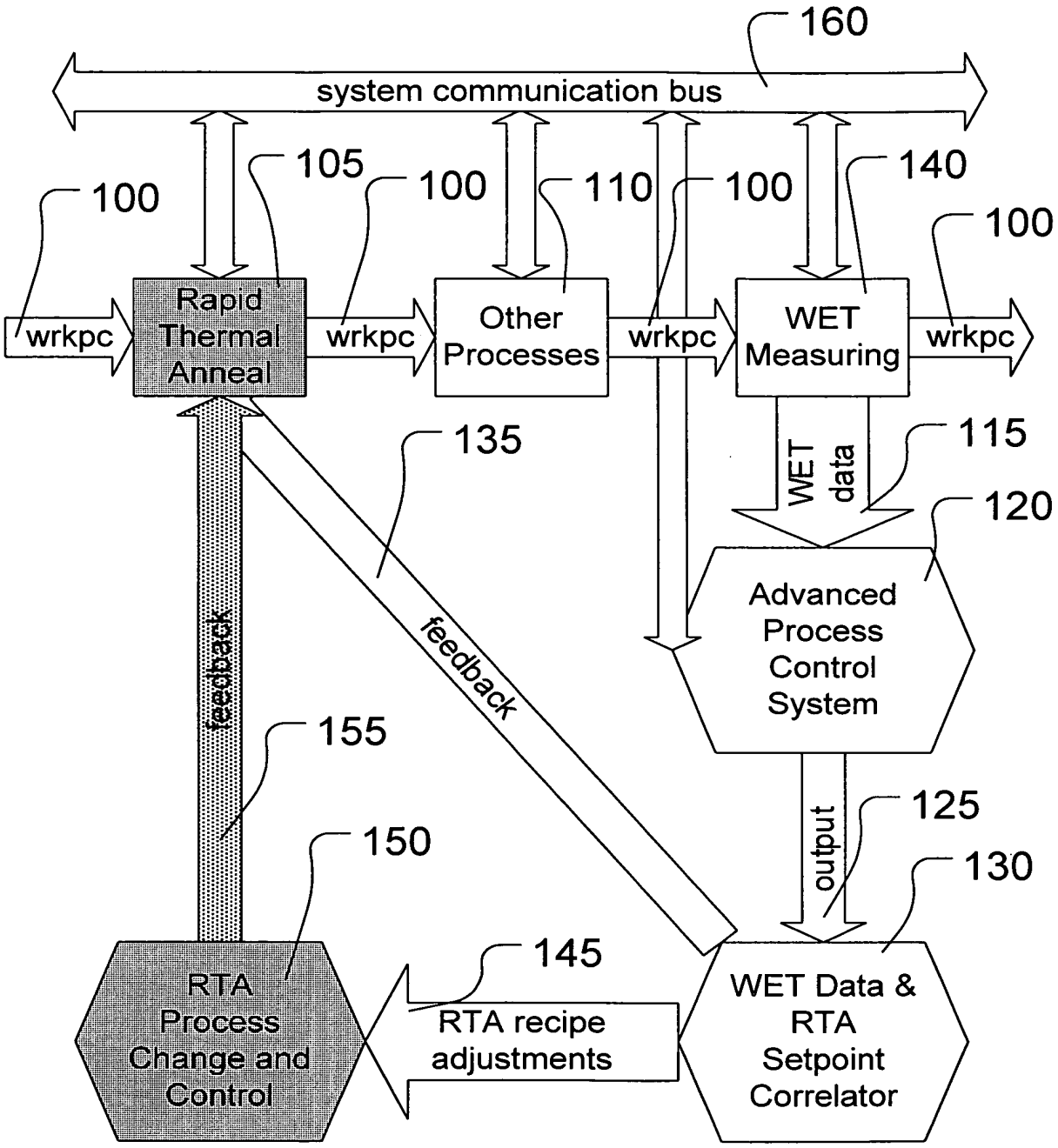
Figure 9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wrkpc
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Other Processes
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Figure 10

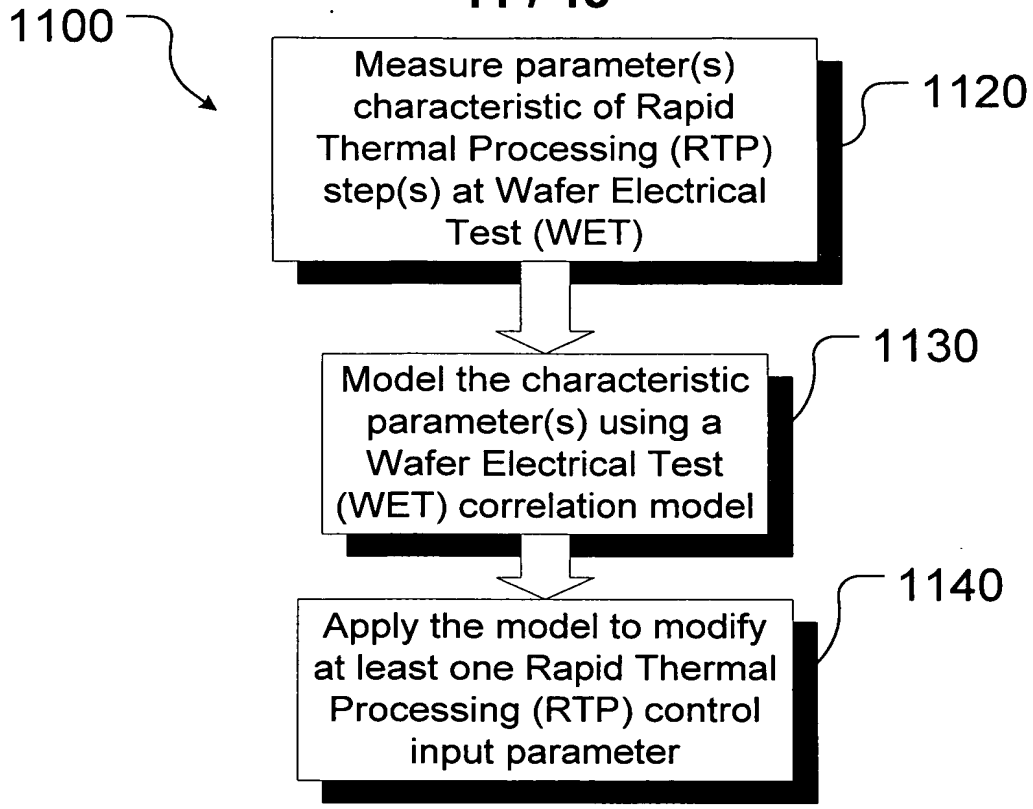

Figure 11

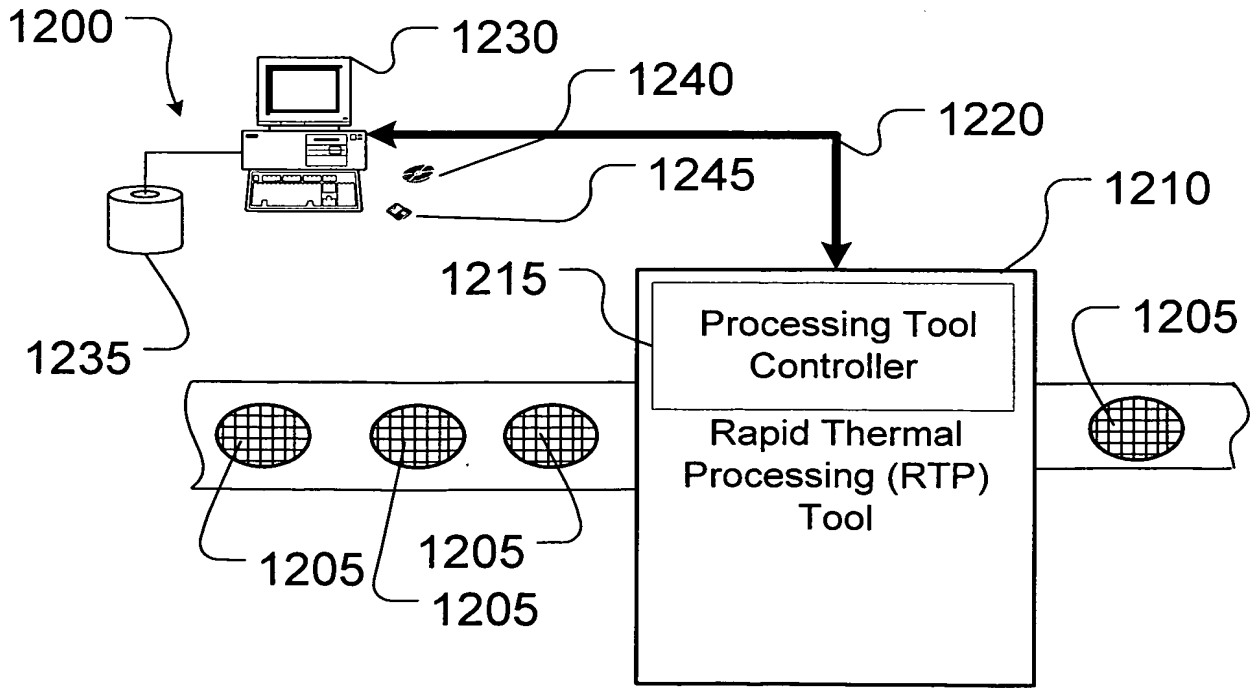

Figure 12

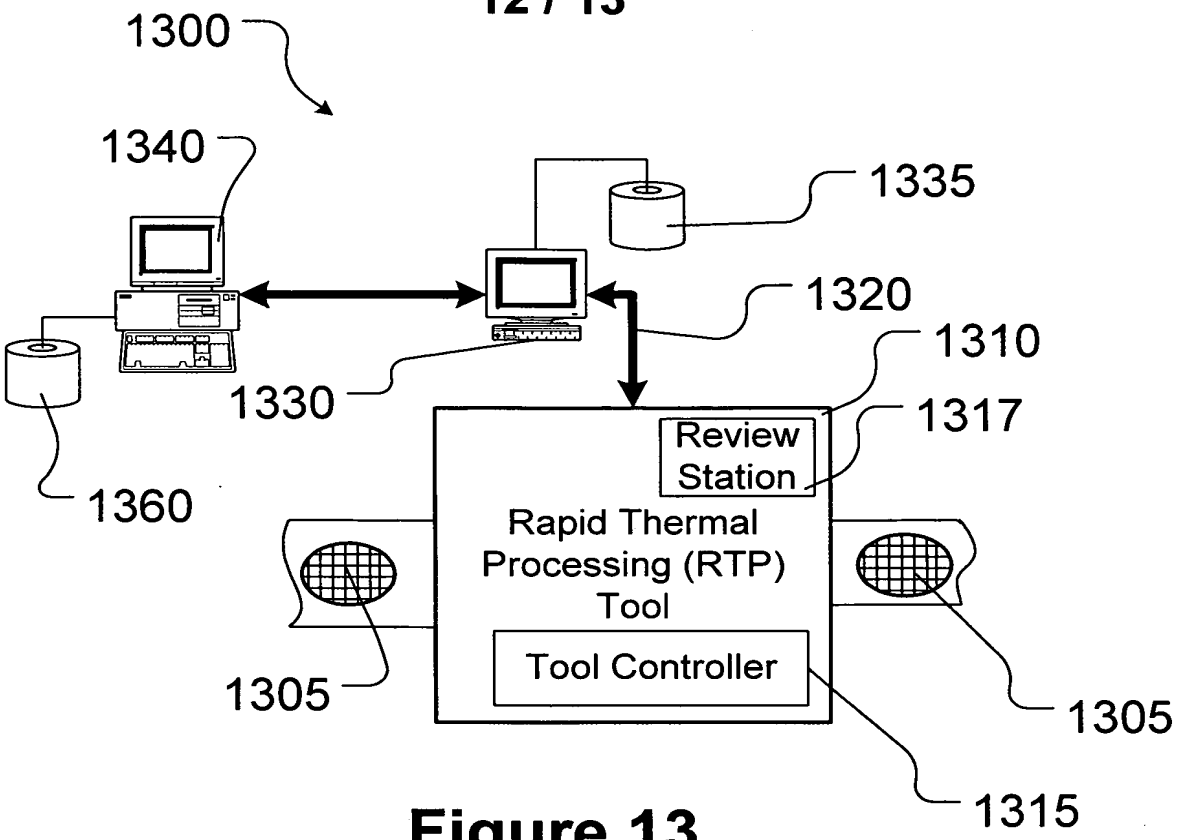

Figure 13

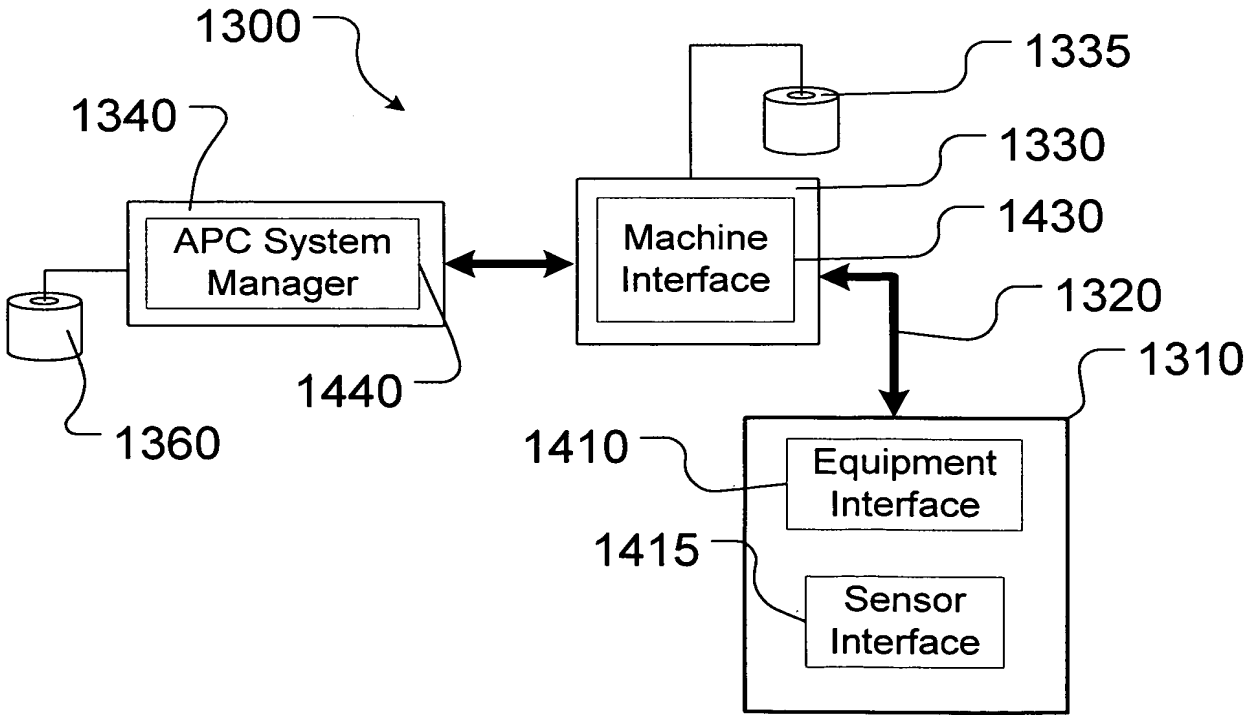

Figure 14

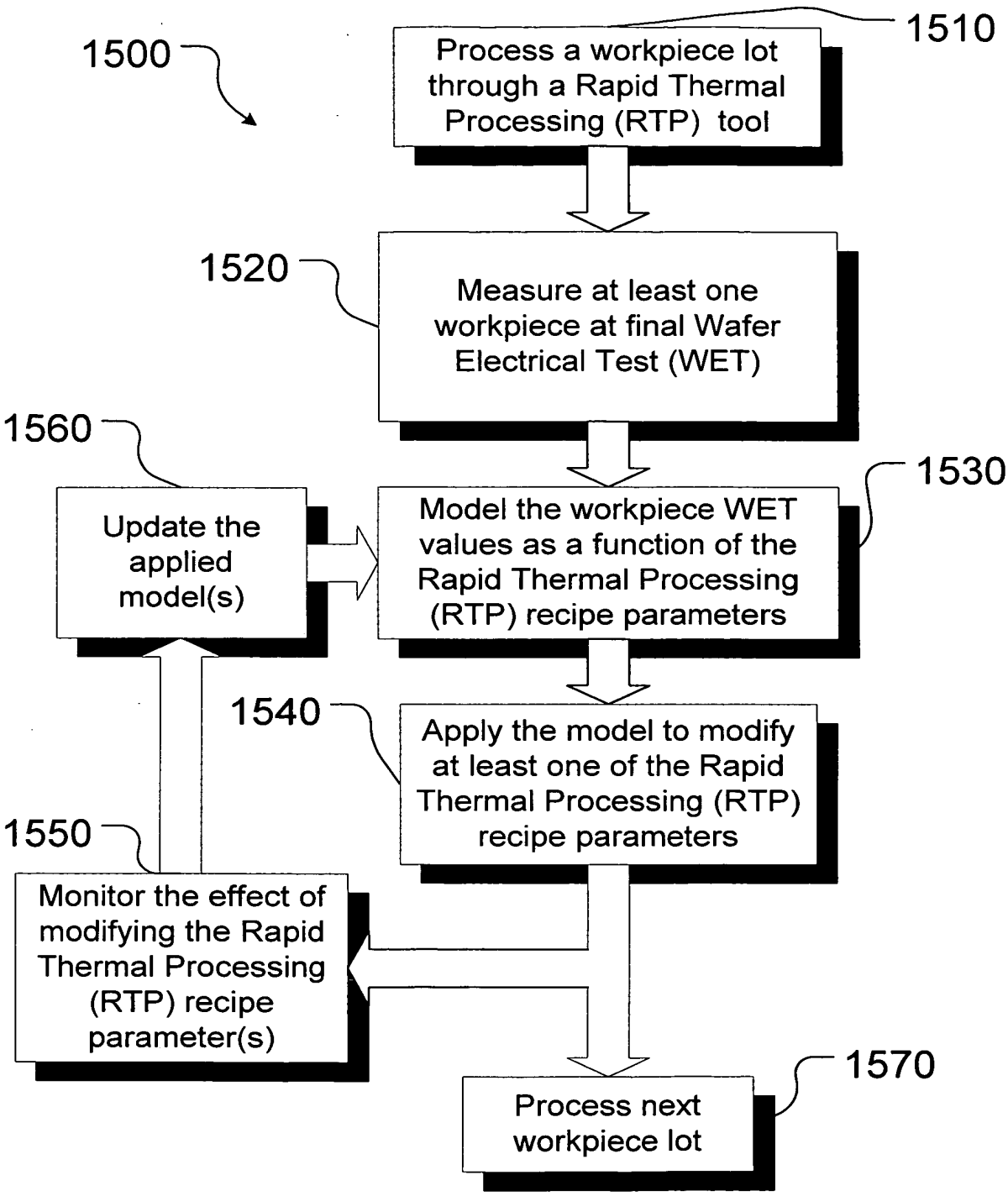
1500
1510
Process a workpiece lot through a Rapid Thermal Processing (RTP) tool
1520
Measure at least one workpiece at final Wafer Electrical Test (WET)
1560
1530
Update the applied model(s)
Model the workpiece WET values as a function of the Rapid Thermal Processing (RTP) recipe parameters
1540
Apply the model to modify at least one of the Rapid Thermal Processing (RTP) recipe parameters
1550
Monitor the effect of modifying the Rapid Thermal Processing (RTP) recipe parameter(s)
1570
Process next workpiece lot

Figure 15